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How It Works: Some Recent Developments in the Pursuit of Academic Excellence

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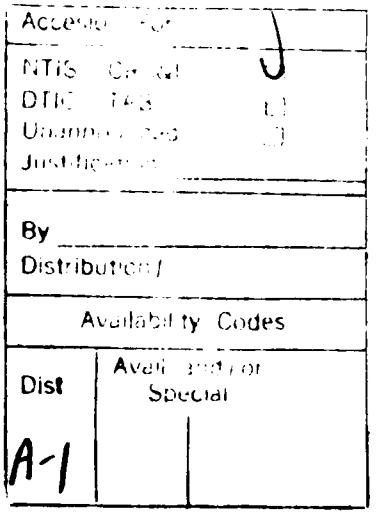

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Loosely based on the popular booklet, "What Works" published by the Federal Government in 1986, "How It Works" reviews some of the latest research findings in key issues of academic excellence. The first section, "Home," addresses the impact and importance of introducing limited educational programming in the home including the role of parental support, early reading, and assigned homework. "Classroom," the second section, presents specific issues germaine to the dynamic interaction between students and teachers: classroom management, student motivation, student-centered classes, and study skills. The third and final section, "School," takes a broader view of academic achievement by examining topics that require much more investigation and scrutiny than they have received to date: The role of principals, curriculum improvement, and school evaluation.

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The Constitution of the United States is the result of the collected wisdom of our country.

Thomas Jefferson
Letter to Amos Marsh
November 20, 1801

Is it not strange that the framers of the Consitution, which had no model in the past, should not have fully comprehended the excellence of their own work?

Andrew Jackson

The Constitution is what we did with our Independence. This (the Bicentennial) is a unique opportunity for a history and civics lesson for all of us.

Warren E. Burger
November 1985

Preface

It seems only fitting that the completion of this paper, How It Works, which addresses the present state and future prospects of academic achievement in America, occurs in the midst of the U.S. Constitution's bicentennial celebration. In Philadelphia, some two hundred years ago, the young nation's representatives gathered to forge a document which specified powers and responsibilities for all levels of society. It required, literally, the creation of a magnificent organization designed to adapt to the changing needs of its citizenry and environment. Massive, visionary, unprecedented, and truly experimental, this plan required implementing the integration and standardization of laws and regulations among thirteen governments, several socio-economic classes, and a plethora of diverse ethnic backgrounds. In short, the founders of the United States shaped a governing structure and process which could grow, mature, and excel like the people it served.

We expect no less from the schools which are endowed with the resources for and the responsibilites of directing the education of our youth. Learning in America today means acquiring basic knowledge in the sciences and humanities, developing communication and analytical skills that translate into success on the job, and retaining and acting upon the democratic ideals which support the kind of society we cherish. Conveying these goals to students is a function of the educational system presently in place. Ultimately, the measure of academic excellence is determined by the end products of schooling: good grades, high morale, and successful applications of what was learned beyond school.

According to many recent studies, most notable being the U.S. Department of Education's (1983), "A Nation at Risk", we are not doing a very good job meeting

these academic goals. The reasons are numerous. They range from erosion and neglect of traditional values to misused and failed application of modern scientific techniques in learning. What results are students who achieve at levels below their potential and continue to lose ground compared to graduates from other developed nations, parents who challenge the school's ability and commitment to teach their children, teachers whose idealism and passion to work falls flat in the face of policing student misbehavior and responding to increased administrative demands, school officials stifled by paperwork and political conflicts in the community, and an educational system operating with a portfolio devoid of balanced input from these parties and purposeful long-term objectives. This situation affects all institutions in American society including the U.S. Army. The educational levels of recruits and careerists directly affects the Army's capacity to maintain a state of readiness for the nation's security in at least two important ways. First, prospective and career soldiers must meet basic mathematical, linguistic, and scientific knowledge standards established by Army requirements. The information which satisfies these needs is purported to be currently available in the average high school curriculum. But do high school students receive the training they need to transfer and adopt, successfully, to a military environment? Can they communicate effectively with superiors and subordinates in an organizational context such as the Army is? Do young men and women learn how to solve problems and contribute to complex decision making tasks? If soldiers cannot fathom necessary algebraic and geometric expressions necessary for navigation, if they cannot decipher technical manuals designed to accommodate an eighth grade level of English comprehension, and if they cannot comprehend relationships between speeding projectiles and gravitational forces, how can we rely upon them to defend this country with any sense of assurance?

A second way in which the Army can be affected by a lower quality of education is with the influence of Department of Defense schools. It is no surprise that

family life in the Army is currently undergoing a major revision in terms of its relationship with and impact upon the career soldier. To what extent are families supportive of their children's education? What values are necessary in shaping their early exposure to everyday learning situations and in promoting a healthy view of Army life in general? Do Army parents provide similar, superior, or inferior learning environments compared to civilian parents? If young pupils are subjected to a mediocre learning environment in school, what effect, if any, does this have upon their career Army mothers and fathers? It is also important to consider how DoD students are faring vis-a-vis their civilian counterparts. Do DoD students' learning potential suffer from similar administrative and pedagogical problems? Do these schools, both in the U.S and abroad, mirror the lapse of educational responsiblity presently plaguing the nation's learning institutions? Moreover, we must consider the possibility that many DoD students perhaps a higher proporation than one would expect from the general population, may wish to follow in their parents footsteps. Can we presume that the education they are receiving today in DoD schools maintains standards of learning excellence and encourages a goodly portion to consider Army careers for themselves in later years?

While the road ahead surely looks difficult, we do have many of the vehicles we need to drive our educators and our students to new destinations of academic achievement. Research is underway to accumulate and review those efforts that appear most promising. We have to know more precisely how well teachers are doing. Are they getting the message across? What learning techniques are effective? These questions were addressed in the 1986 Department of Education publication, What Works. This document highlights, in brief and straightforward language, a selection of broad topics in education. Designed to be read by the parent, teacher, and administrator, as well as the scientist, What Works outlines, specific teaching methods which modern research

tells us are, indeed, successful. How some of these methods work, how they are translated into meaningful activities any educator can employ, and how their level of effectiveness can be evaluated and monitored are key themes examined in the present treatise.

How It Works is, to some degree, a primer. Like its predecessor, it is directed toward the general public, though researchers can benefit from it as well. It is by no means comprehensive. Specific topics were chosen because they addressed important and recently investigated academic issues. References for works which include suggestions, techniques, and materials adopted for classroom or home use are also included. While relatively short, each selected topic is fairly thorough in its approach to defining the problem and identifying how its particular methods actually work.

How It Works does attend to a problem that is national in scope but is somewhat more humble than the effort which produced a constitution two centuries ago. The consequences of the issues under consideration, however, are no less important. Indeed, what is happening in America's schools today is a microcosm of the clash of interests indicative of a democratic society. Therefore, let the school be a crucible where we test ideas, pose new questions, and seek out the contributions of all concerned with improving the academic environment. Otherwise, future generations may look back to ours and decry the missed opportunity we had to affect positive change in the schools. The challenge to us is unmistakeable and serious. The desire is certainly there. The solution is attainable.

This paper was completed thanks to the Consortium of Universities of the Washington Metropolitan Area which, through the Consortium Reseach Fellow (CRF) program offers qualified graduate students from member institutions an opportunity to engage in applied scientific projects by having them provide technical and

analytical support the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) (contracts MDA 903-85-C-0216 and MDA 903-88-C-0054). My tenure as a CRF in ARI's Office of Basic Research (OBR) provided me with rich opportunities to explore many avenues of psychological research applicable to Army needs as well as work with some of the top behavioral scientists in the field. For these reasons I wish to acknowledge the general support of three scientists from OBR: Judith Orasanu, Research Psychologist; Milton Katz, former Director and presently Chief of the Scientific Coordination Office in London, England; and Michael Kaplan, present Director. Much of the typing and editing efforts of Julie Waller at the Consortium represents the best in organizing ideas and putting them down in a way that others can read and understand. Finally, I must express both gratitude and relief that Robert S. Ruskin, my supervisor and Vice President and Director of Research and Program Development at the Consortium, makes me work but lets me think.

Steve Kronheim

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Introduction

In recent years, the goals of education have shifted from delivering a system which could offer various learning alternatives most beneficial to a pluralistic society, to producing graduates who can adjust to the real world challenges which face them when they become adults. In actuality, the most advanced educational practices incorporate both of these major objectives. To this extent, many educators have certainly grown older and wiser.

Likewise, research in academic achievement has come a long way in a short time. Studies of a generation ago emphasized the role of culture and ideology in the formation of a student's educational experience. More recent efforts stress specific factors that determine success in school. They utilize sophisticated computers and other technological wonders for processing the tremendous quantity of data which can be collected in scientific research. By combining this capability with the innovative adaptation of theory and concepts from other fields of endeavor (e.g., organizational behavior), the possiblities for increasing our knowledge and understanding of learning achievement are exciting. Such are some of the ideas considered in the present effort, How It Works.

The format for this paper is to some extent derived from its predecessor, What Works. The three major sections of the document, *Home*, *Classroom*, and *School*, and most of the subtopics are structured identically and designed to be read, in part, as companion pieces to the orginal treatise. Ideally, the reader has the opportunity to browse through What Works, identify a subtopic of interest, and seek further clarification or information in How It Works.

Home, the first section of How It Works, addresses the impact and importance of introducing limited educational programming in the home. Selected subtopics represent some of the factors which contribute to early learning: parental support, early reading, and assigned homework. The concern with overwhelming young students with rigid scheduling and excessive studies is not overlooked. The second section, *Classroom*, presents specific issues germaine to the dynamic interaction between students and teachers: classroom management, student motivation, student-centered classes, and study skills. Here, the focus is on the hottest new issues in the field as well as what research has to say about their usefulness for the practitioner. The third and final section, *School*, takes a broader view of academic achievement by examining topics that require much more investigation and scrutiny than they have received to date: the role of principals, curriculum improvement, and school evaluation. Recognition of the interdependence of schools, their consitutents, and the communities in which they reside are of primary importance.

Theoretical and other practical considerations, however, limit the extent to which the two documents can be thought of as paired volumes within a set. What Works lists and introduces a large number of topics and concepts which present the most basic information on educational achievement in simple, understandable language. How It Works, by its very nature, examines selected topics and the mechanics of how certain techniques are indeed successful. These subtopics are further broken down into areas of emphasis noted by boldface titles at the beginning of key paragraphs. Moreover, the project is not meant to be exhaustive. In fact, the possiblity remains for developing future efforts which examine why certain techniques for boosting excellence in education are more successful than others (e.g., Why It Works).

Section I: HOME

Introduction

Home life is a key, if not the prime, ingredient in the early education of children. The research topics selected below reflect the premise that what happens in the home has a great bearing on how successful the young student will be when he or she attends school.

The first topic addresses the home environment itself. The capabilities and responsiblities of many American families have evolved beyond time-honored traditional notions of how children should be cared for and educated. A large proportion of today's youth will experience single parenting and apartment living. Through the mass media and various modern technological innovations, they will be exposed to a way of life that encourages autonomy, convenience, and instantaneous gratification at the expense of interdependence and hard work. Yet mothers, fathers, and other family members can make very basic and necessary contributions to what may become a child's stimulated and enriched environment.

The second topic presents the latest findings which explain how parents can encourage their children to become avid readers. While a strong bond with a community that extolls the virtues of education is important, it is also evident that parents who engage in very specific activities reinforce their children's reading.

The third and final selected topic for this section examines how families, parents in particular, help their children complete homework assigned in class. Many factors are involved, not the least of which is the creation of a strong working relationship among

all those concerned with the homework process: administrators, teachers, students, and families.

1) How Parents Enrich the Child's Home Environment

Parents are the most important sources for their chidren's acquisition of skills, knowledge, and achievement-related behaviors during the early years of development. Unfortunately, this essential premise is neither recognized nor used by many in the educational community who exaggerate parents' inability to meet their youngsters' perceptual and intellectual requirements in the home environment.

Cultural Deprivation Many scholars assume that children in families of lower socio-economic status are "culturally deprived" and so are denied appropirate visual and cognitive stimulation. Consequently, various preschool intervention programs begun in the early 1960's, like Headstart, have stressed broad and comprehensive behavior change programs designed to alter negative cultural influence and poor scholastic habits. While recent reassessments of Headstart indicate greater and more prolonged academic success than was once thought, most of these early intervention programs were poorly conceptualized though well-intentioned. Blaim for poor achievement and low IQ scores was directed toward all of society for denying equal opportunity, but the focus of the intervention remained the child, the child's parents, or the child's home. This policy faltered for two reasons, both of which, ironically, represent diametrically opposed philosophies of societal intervention. On one hand, educators lack evidence supporting the position that the poor should shoulder the greatest responsibility for their own plight. From the other direction, it is clear that educators simply lack the means, if not the desire, to restructure American economic life. In either case, insisting that parents teach their children particular values and ideals held by social workers, school psycholgists, and other representatives of the prevailing culture appears inappropriate.

Specific Techniques We now appreciate that early academic success is most likely to occur when we understand two very important prescriptions: First, most parents already have certain basic achievement orientation goals in mind when they interact with their children. For instance, research shows that when mothers stress language skills in the home through extensive verbal interaction with their infants, these same children later excel academically in kindergarten. Second, vague and poorly defined notions of morality lack laboratory support. Specific educational techniques directly applied and reinforced in the preschooler's home hold the greatest opportunities for school preparation. Concerned parents who couple precise teaching aids with appropriate rewards produce children who do well in school. Academicians need not judge the rightness or wrongness of parental beliefs and values (much less that of an entire sub-culture) imparted to children.

How can educators help parents teach their children in a home atmosphere grounded in success and enjoyment? They can provide information to parents about skills their child is developing in the home or during early *school* years. They can supply reading, writing, and other supplementary materials for parents so that they can help their child practice those skills at home. If the home is bilingual, parents can use bilingual learning aids. Educators should also encourage discussions and interactions between children and parents. Finally, teachers and school administrators should provide parents with on-site meetings, outreach projects, and other opportunities for increased communication between the school and the home.

Parents themselves become better educators when they are given age-appropriate information on their children's development and when they are trained to focus on systematic observations of their child's behavior. Children respond well to learning activities that are planned, organized, shared, and monitored. Cooking, painting, let's pretend scenarios, and quiet play are some examples of the range of events that stimulate imagination and stress cooperation. Parents can prepare a calendar of daily

events, each of which entails only 10 minutes of their time. Mathematical facts, measuring, reading, writing, listening, and following directions are examples of activities which demonstrate the continuing process and importance of learning in the home to parents and children. School-age children learn about art, music, fantasy, physical exercise, and fine motor skills, but parents can easily introduce preschoolers to these subjects as well. It is important to keep in mind that parents need only expose children to many of these learning opportunities. Extensive and prolonged instruction is inappropriate and detrimental for youngsters who need to learn how to make decisions on their own in an environment free of unnecessary restriction.

Finally, parents of gifted and diabled children have access to various guidebooks and community-based programs which offer a host of resources including books, pamphlets, articles, slides, audio and video tapes, toys, games, and other teaching materials. Parents can learn to deal with the special problems and concerns both they and their children have regarding their particular circumstances. Offering emotional support and direct reinforcement of parental involvement are the keys to their children's future academic success.

Parents are thus viewed as knowledgeable, trainable, eager to help and develop their children's abilities, and interested in retaining crucial control over the important decisions which affect their preschooler's early education practices.

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2) How Parents Help Their Children Read

Reading is essential to later school achievement, and parents play vital roles in encouraging and monitoring their children's reading ability. Three important ways in which parents influence their child's future reading ability are by providing a supportive family and community environment, exhibiting their own positive attitudes regarding the importance of reading, and reinforcing the development of good reading skills and habits by their children.

Family and Community Environments The family and community environments provided by parents should afford the growing child a strong foundation from which to develop positive reading practices. Where communities are homogeneous in positive attitudes toward reading but heterogeneous in cultural make-up, reading achievement is high. This is logical. Many of the stories a child either reads or listens to describe people of different cultural heritages. Variety in reading experience thus stimulates a child's curiosity with the habits and customs of her/his neighbors. Making reading relevant to the child's immediate environment and reading skills will improve reading itself. Further, the family's living arrangements should provide the child with a setting that is conducive to reading, with time set aside for the activity, proper lighting, miminal noise, and few distractions.

Positive Parents The parents' own attitudes and behaviors have an important effect on their children's ability to read well. Many parents with children of high reading ability are themselves from families where reading was stressed and are in jobs which require continued reading ability. Children who become successful readers at an early age have parents who describe themselves as highly supportive of the activity. They either take the time to read to their child, read a good deal themselves, or read their own materials while their child reads. Such parents express

an intrinsic responsibility, rather than one imposed upon them by the school, to teach their children how to read, particularly while they are preschoolers. This attitude is apparently a good one since research generally shows few or no significant differences, in children's reading ability, between the formal atmosphere of school reading and the informal atmosphere presented in the home.

Early Skill Development Children can develop skills and abilities which improve their chances of successful reading and which should be encouraged by their parents. One of the earliest signs of later reading talent is the ability of a child to interpret and use complex pictures associated with reading material. Depth perception, perspective, and recognition of objects in three dimensions are specific skills which correlate with understanding pictures. Children who can shift from early understanding of simple, direct, and clear pictures to those which are more complex and provide increased use of depth cues and aerial views are more capable of following story lines in pictorial form. A child who possesses prior knowledge of story content, who recognizes different story forms, who asks and answers questions pertaining to the reading, who initiates book reading rather than waiting for others to take the lead, and who distinguishes between letters and words early on is more likely to develop exceptional reading potential.

Reinforcing Reading Habits Parents of good readers undertake a number of activities which foster a child's reading ability. In the realm of reading itself, such parents intensify their children's word recognition skills by emphasizing letter and sound distinctions. Using basal reading series by matching the level of the story with that of the child is successful. Anecdotal evidence suggests regular book reading with infants as young as three to six months is effective in promoting later reading ability. Reading at particular times, especially at bedtime, ritualizes reading to the point that children expect the activity and look forward to it. Parents who take pains to read out loud to their children, rather than passively expecting

them to read to themselves, foster successful reading. In short, parental encouragement of reading serves a number of useful functions which reinforce the child's interest in reading: the child learns that reading entertains, helps solve everyday problems, provides useful information, and is an activity which is simultaneously interesting and relaxing.

Parents may also engage in other associated activities designed to reinforce their pre-schooler's reading. For example, as children read or listen during story-telling sessions, parents may ask thought provoking questions at key points in the passage which stimulate awareness and analysis of abstract events. When these questions take on a "school-like" quality, they help children practice the behavior of searching for information which is relevant to the story.

Parents as Models Parents act as successful teachers when they model positive academic behavior. In recent years, more and more adults have decided to continue their education after a long hiatus by taking university courses and pursuing college degrees. They offer their children a unique opportunity to see and learn from their own parents also in school. Whether attending classes or not, parents who have learned to distinguish the simple from the complex paintings and drawings their child produces do a better job of discussing the value of a child's work in a way that is meaningfully related to the child's reading. In fact, encouraging children to paint, draw, and talk about their own pictures helps the children to understand the nature of logical and linear types of thinking. This process is quite similar to early reading activity itself.

Parents as Providers Parents are also in a position to provide a tremendous amount of supportive information and activities to foster reading success. Reference material in the form of attractive magazines and picture books for toddlers, and newspapers for older preschoolers help children to read. Making thoughtful use of appropriate television and computer software programs specifically designed to

reinforce reading works well. Materials such as chalk and magnetic boards for rearranging letters, words, and images, as well as cassette tapes remain traditional but reliable means for aiding reading. When parents request their youngsters' teachers to give the children relevant reading assignments beyond dull and often tedious workbooks, superior reading activities ensue.

Without a doubt, a child who lives in a home surrounded by an atmosphere which is favorable to reading and whose parents go to considerable lengths to encourage and support her/his efforts to read will, indeed, become a more competent reader.

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3) How Homework Works

When students take books and assignments home, work on them there, and return to class prepared to discuss or present the results of their work, we say that they have done their homework. More than just busywork, teachers say they give homework to students mainly to develop self-discipline. To them, it encourages students to become more independent, responsible, and motivated. Teachers will admit, however, that they often give homework for reasons of convenience. Given the time constraints in school, homework allows teachers to cover some curriculum outside of class. Teachers also report that homework supplements and reinforces learning, though they use it mainly for drill and review of what was already learned. They also indicate a desire to get parents involved in the study process; in this sense, homework becomes a common pursuit for teachers, parents, students, and even school administrators.

History Most early research in this century described, but did not truly explain, the practice of homework. In the mid-1940's, more effort was placed on extracurricular activities. That liberal trend was altered a decade later when the launching of the Russian satellite, Sputnik, jolted American educators who pressed for a stronger national commitment to teach math and science subjects. Homework was now viewed as important for student achievement, rather than merely student attentiveness. The 1960's ushered in more radical views of homework. Some educators regarded homework as inappropriate and redundant unless a student was previously motivated to study. In reality, most teachers even then used homework as drill practice. By the end of the decade, many educators thought that heavy doses of homework put excessive stress on children. While it is still not clear on how much stress is too much, it is only in recent years that great efforts have been made to incorporate homework as part of a comprehensive learning environment aimed at student excellence.

Types of Homework Today, educators identify at least three different kinds of homework. *Practice* homework describes factual responses to terms and questions that cover material already presented in class. This kind of work often leads to boredom. *Preparation* homework is given to students before a class lesson so students will gain maximum benefit from it. This usually takes the form of written assignments, reading, drill work, or individual work. *Extension activities* are either long-term, problem-solving assignments, or self-selecting projects. Consistent differences in student achievement among these types have yet to be found.

Homework usually begins in the 4th grade. In the middle grades, students average about one hour per day on homework, but they exhibit great variability. By the end of junior high school, 30 percent do no homework at all, while 15 percent do at least two hours worth each night. At this age, the average time spent outside of school is 90 minutes. The largest increase in homework is between 10th and 11th grades. Girls and college-bound students spend more time on homework than either boys or those not planning to continue in school after graduation. Almost all teachers and most college professors assign homework. When teachers believe their students possess high academic ability, they assign more homework. But teachers think the homework they assign takes less time than it really does.

What Students Think Contrary to popular opinion, most young students feel homework is necessary and a large percentage actually favor it as well, though under limited circumstances. Students who benefit most are those who approach it with curiosity, varied interests, and a willingness to work hard. When homework is manageable, when there is a clear understanding of the assignment, when all necessary materials are at hand, and when a quiet place to study is available, students do complete their assignments. Most students also say they need help when doing homework. Curiously, students from professional families complain about homework most. Students who come from supportive families are assigned more homework. In

general, students expect and value homework.

While there is no clear-cut evidence to suggest that completing homework improves overall learning, it does have an enormous effect on skills requiring continued practice and usage like mathematics. The fact is, those concerned with improving education believe homework to be an essential part of student achievement. School boards, principals, teachers, parents, and even students stress the need to continue the learning process outside of the school and in the home. Each of these contributors has a role to play in this process.

Policies What kind of homework policy should school boards set? At least three elements are involved: a statement which explicitly states why homework is important and what its major goals are; suggested time limits for different grade levels; and an indication of the responsibilities of teachers, students, and parents.

(1) Philosophy: The board should spell out why it believes homework is important and how it benefits students: that is, homework is an integral part of instruction, allows students to follow through on personal commitment, sharpens useful skills, and requires self-discipline. School boards can note that the amount of preparation should increase as a child progresses through the grades. Policies should reinforce and augment class lessons for research, individual projects, and drill. Teachers still determine assignments.

(2) Time Limits: The clearer the suggested time limits, the greater the likelihood of policy implementation. Limits act as guidelines for teachers and take into account developmental differences of students. Recommended time limits for homework duration and frequency are indicated for Grades K-12 on the following page.

Grade	Duration	Frequency
K	15-20 minutes	once or twice a week
1	15-20 minutes	once or twice a week
2	20-25 minutes	once or twice a week
3	30-35 minutes	two or three times a week
4	35-40 minutes	two or three times a week
5	40-60 minutes	two or three times a week
6	60-75 minutes	daily
7	75-90 minutes	daily
8	90-105 minutes	daily
9	105-120 minutes	daily
10	120-135 minutes	daily
11	135-150 minutes	daily
12	135-150 minutes	daily

Note: For Grades 9-12, teachers may assign 50 minutes of homework per course.

3) Responsibilities: From the board's point of view all those involved should recognize that quality and meaningfulness are essential components of effective homework.

Guidelines by Principals What homework guidelines should principals set? First, principals should acknowledge that they represent the entire school and may therefore advocate general policies for all classes. Lower and upper time limits for amount of homework can be established, though flexible arrangements will have to be granted to those few administrators, teachers, and students who for whatever reasons cannot unequivocally accept these policies. Second, principals should work with teachers and department heads to achieve consensus for selecting the specific days that homework in different subject areas will be assigned. For example, Mondays and Wednesdays can be reserved for English and social studies; on Tuesdays and Thursdays, math and science homework may be indicated. Third, principals should get a good idea of how much homework each teacher requires; they should not expect teachers who do more in-class teaching and have large classes to assign as much homework as those who carry a smaller course load. Fourth, principals can increase reinforcement students receive for completing homework and assist teachers in minimizing their paperwork by actively involving parents in the homework evaluation and policy-making process.

Guidelines by Teachers Teachers are the focal point for delivery and maintenance of successful homework. What can teachers do to make the most out of the work they assign? They must begin by explaining their homework policy to students on the very first day of school; parents should also be made aware of this policy. One helpful management policy is presenting a general outline of assignments one week in advance. Students should also be told how to do each assignment and should understand that the homework supplements, but does not replace, classroom work. If students do not ask questions abut a given homework assignment, teachers should not assume that they understand it. Students may have to be encouraged to speak up and request help.

Homework can be made more relevant to students by individualizing assignments as much as possible and by explaining to students the value that a given assignment will have in their learning process. To this end, teachers should be aware of the home environment of students: who gets parental help, who has superior workspaces, who observes certain religious holidays, and so on.

An often dull, but absolutely necessary part of homework is careful recording, evaluating, and feeding back results to students and parents as quickly as possible. All the effort that goes into creating and maintaining homework assignments can be lost if this information is neither reliably assessed nor properly delivered to those who can profit by its results. Variations of homework grading, including having students mark each other's papers, are always recommended and nurture the continuing development of responsiblity and authority. Letting students know that their opinions and judgments are valued is extremely important. Improper usage of homework, such as delivering it as a form of punishment or presenting it on the "spur of the moment", will have an opposite and negative impact. Teachers have to think about not only what homework can do for their students, but also how inappropriate homework can actually interfere with learning.

Guidelines by Parents Another element of the homework equation is the role of parents. They are vital to insuring that success in homework leads to school achievement for their children if they understand what the homework entails, arrange quiet and suitable workspaces for their kids, and monitor the amount of homework done. Parents should encourage homework completion by helping their children plan long-term assignments and be ready to help if it's absolutely necessary. If parents do not understand the assignments or try to do their children's work for them, their influence will have a negative impact. When no homework is assigned, parents can still motivate their kids to engage in study-like activities to avoid unproductive periods that usually accompany such potentially wasteful activities like excessive television watching. By the same token, children cannot be pushed at a rate which exceeds their capacity and tolerance for schoolwork in the home. "Burn out" is a real concern and can occur if parental demands and expectations are overwhelming.

Finally, parents should recognize their pivotal role in the homework process. While they can avoid the uncomfortable position of coming between teacher and student, they are completely within their rights to hold both responsible for homework conduct: the teacher's job is assigning, evaluating, and feeding back the results of the homework to parents and students while the student's responsibility remains completion of the homework itself.

Guidelines by Students There are many activities that students can perform which enhance the effectiveness of homework. Students can begin their efforts in the classroom by having a separate notebook for homework assignments. They can deliver a little positive reinforcement of their own by informing their teachers of homework success and enjoyment. They can also tell their teachers if the assignment was too excessive, dull, or just a waste of time. Students should realize that homework is meant neither to be too easy nor too difficult, but challenging and instructive.

Taking responsibility for regular and punctual class attendance, getting the homework assignment, and making up missed work are all necessary. Students should understand the purpose and requirement of the assignment, follow directions and know the suggested time limit, and understand how homework is evaluated. Content, grammar, and appearance are all important elements in the grading process. To do a good job, time must be budgeted and goals set for homework completion. Then it is just as important to reward oneself after finishing (e.g., "After I finish the next ten problems, I will take a break.")

Certain creative methods will enable students to do a better job on their homework. Creating mental images of doing a good job and getting both parental and teacher rewards is one approach. Or students can elaborate on the homework by doing more than what is expected. They should ask questions and pose problems about the work (e.g., while reading about electricity, imagine what would happen if it suddenly disappeared). Homework helps to create analogies and categorize information in meaningful ways. Teachers, parents, siblings, friends, and fellow students can help create mini self-help tests which measure how well a student is completing her/his homework as it is being done.

Homework should be seen by students as a continuous process. The work should flow from class to home and be resumed when the student returns to the classroom the following day. Regularly scheduled times for review and deadlines for completion should be established. The student must ultimately assume responsibility for getting the necessary help and auxillary materials to complete the assignments. They must be encouraged to ask teachers to explain the assignment after class if they are still confused. But they can neither expect others to do the work for them nor assume that doing "most" of the homework constitutes a complete lesson. They will also have to learn to distinguish between excuses and legitimate reasons for poor or incomplete homework and be prepared to accept the consequences or penalties which may follow.

When basic standards for homework are established and when students recognize the responsiblity and care that both teachers and parents demonstrate to encourage this learning process, then they too will develop the integrity and honest which comes from doing the best that they can from their own labor.

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Section II: CLASSROOM

Introduction

The classroom is the place where most academic learning occurs. It should be an exciting and challenging environment where both teachers and students look forward to interacting and spending their time together. All too often it is, in fact, just the opposite. Many classrooms have become virtual battlegrounds for power and control between teachers and students. Intellectual pursuits lag behind personal and interpersonal conflicts. Though perfect solutions are unavailable, research does illuminate some approaches that engage the behavior of both teachers and students and redirect it toward academic achievement.

The first two selected topics emphasize what teachers can accomplish. They are very responsible and capable people. Many of the skills required to manage an organization are intrinsic to their classroom. Thus they become better teachers and students become better learners when classroom time and materials are scheduled and organized. They also excel in their jobs when their students-subordinates are highly motivated to study and think.

The other two sections describe activities that students can master and control. They successfully manage, counsel, and tutor other students and should receive further encouragement in this direction. And when they learn more explicit means of school preparation in the form of studying, their work in class improves, too.

1) How Teachers Manage Classrooms

A teacher is responsible for delivering information to students as accurately, efficiently, and comprehensively as possible. To accomplish this task, a thorough understanding of how knowledge can best be transferred is vital. Since classrooms are the places where educators conduct this sort of business, it is sensible to regard the organization of teaching activities as a problem of classroom management.

Assumptions We must first accept certain assumptions about the nature of those who attendschool. Students want to learn. They enter school with the capacity to enjoy academic endeavors. They are only limited in what they can achieve by the tools and framework which define their educational tasks and objectives. Normal violations of these assumptions are typified by low student interest and motivation. It is thus incumbant upon school administrators and ultimately their representatives in the classroom, the teachers, to maximize and reinforce the motives and intellectual potential which already reside in young minds. One way of addressing this problem is by adapting principles of business management to classroom instruction. Ideally, teachers are a central part of this process since they must possess many executive skills and perform functions found in other organizations:

(1) Teachers are **PLANNERS**. They make decisions about course and lesson content, schedule time, choose appropriate activities and form work groups which require constant supervision.

(2) Teachers are **COMMUNICATORS**. They structure lessons so students understand what requires study and what can be skimmed or ignored. They help students identify goals and set acceptable standards of academic excellence.

(3) Teachers are **REGULATORS**. They set the pace of lectures and discussions. They establish routines and organize learning events in logical and progressive formats.

(4) Teachers are **MONITORS**. They oversee student activities, control the use of time, present lectures and materials at the appropriate time, minimize inappropriate behavior, and provide essential feedback on academic achievement.

(5) Teachers are **NURTURERS**. They provide pleasant environments which support individual wants and needs.

(6) Teachers are **EXPERTS**. They work with intellectual novices. This requires them to assess student knowledge and task abilities, and set rules for those new to the classroom.

(7) Teachers are **MOTIVATORS**. They instill and support a spirit of inquiry necessary for success in school.

(8) Teachers are **INTEGRATORS**. They are responsible for enacting administrative policy, imbuing norms of academic achievement, and matching required curriculum with student capabilities and agendas.

(9) Teachers are **INNOVATORS**. They present new information, stimulate creativity, and encourage positive interactions among their students.

This is certainly an idealistic view of the teacher's role in a well-organized classroom. How, in practical terms, can teachers meet the demands of these executive functions? Recent research suggests that one approach to addressing this question can be found in training a school's teaching staff in class management. Teachers who participated in a program designed to increase their effectiveness in class made greater use of corrective and appropriate feedback. They also spent less time reviewing material individually and allocated more time to instructing the class on new information.

Time Management A more concerted effort, however, has been directed toward tackling the specific issues of time management. If teachers can learn how to organize, monitor, control, and reinforce optimal use of class time, they and their schools are more likely to reap the benefits of enhanced student performance and satisfaction. For example, one time management framework, known as SOS, spells out three major components essential for teachers' classroom effectiveness: The first *S* in SOS refers to self. Important here are (1) the student's own awareness while performing various studies during a given period and (2) individual control of self-discipline while the teacher engages in an activity away from the student. The second letter, *O*, stands for organization of student behavior such that it conforms with the overall class's work schedule and the academic requirements of the school system, and minimizes poor performance due to interruptions. The third *S* represents the importance of individualized scheduling and of learning to analyze more complex tasks on one's own.

Behavior Modification Another way to achieve great success in time management is through the application of behavior modification techniques. In general, this entails an initial assessment of student performance given the amount of time it takes to complete assigned tasks. When activities are compared with durations and areas of needed improvement are identified, teachers can then reinforce students for time properly spent. Subsequent work assessments allow the teacher to fine-tune the reward to the specific activity for the allotted period.

Practical Suggestions In practice, a number of suggestions aid the teacher's ability to conduct this procedure. To minimize wasted time, teachers can have students perform activities at the beginning or end of class that do not interfere with simple necessary administrative tasks like taking attendance. They can also give students the day's assignments in individualized folders as they enter class in the morning.

Students should be rewarded (e.g., with points toward their grade) for beginning assignments immediately and for remembering to bring homework or requested items from home. Those who engage in stalling, delay, or avoidance behavior should be ignored. Punishment is rarely acceptable or useful, and even if absolutely necessary, should only be employed on a last-resort, temporary basis. When it must be used, immediate, swift, and sure reprimands should be coupled with clear explanations of why the punishment was deemed necessary. Promoting an acceptable alternative encourages both proper behavior and reinforces a student's ability to make mature decisions. Guiding students toward positive behavior is still preferable. Precise and early clarification of rules is required regardless of the policy chosen.

Teachers should also monitor their own time and learn to use it effectively. The results of one recent study illustrate the difference between average and effective use of time based on student achievement test scores:

Behavior	Average Time Use (percent)	Effective Time Use (percent)
Monitoring	50	35
Organizing	26	12
Teaching	12	50
Off Task	12	3

Teachers must plan for efficient distribution of announcements, lesson plans, exams, and other materials. Using a class seating chart based on learning facilitation (e.g., who excels or who has hearing, seeing, and other learning disabilities), not alphabetical order, is highly recommended. Finding out how students "clump" together by skill and ability through testing is a good way of determining the when students should be taught as a group versus learning material on their own. During discussion and other group activities, teachers should remain visible and easily accessible. It is important to minimize intergroup distractions by keeping the volume of nonessential talking down and maximizing the distance between groups even if it means moving chairs and desks.

Student-Teacher Interaction Another aspect of time management deals with on-going interactive instruction between teacher and students. Some desireable guidelines include providing students with several activities in a given period, particularly for those who finish early while others are still working. Since feedback is such a vital component of the management approach, teachers should spend time reviewing reviewing previous work, make thorough use of short quizzes, enlist the support of parents who can voluntarily grade their children's papers from time-to-time. Instructors should call on students by name and question them to see if they understand and can demonstrate their acquired knowledge. Combining demonstrations, graphs, and slides with lecture material, especially when new concepts are introduced in class and student attentiveness is manditory, is useful. Having students read aloud in class is profitable but only after new words and ideas have first been covered. Readers should then be questioned about specific ideas or paragraphs. This delivers immediate feedback and reinforcement. The interactive session, or the class day itself, should conclude with a summary of important points and an announcement of what relevant information will be addressed next. When teachers employ many of these techniques in classroom mangagement, they usually find that time spent on superfluous writing or unnecessary silent reading decreases.

Data Collection One of the best ways to meet the criteria for accurate behavioral assessment of student performance is the use of checklists that specify which student activity is occurring at a particular time. One such tool, the Time-Off Task Manual, recommends noting idiosyncratic behaviors of chatting, disruption, personal needs, and waiting during various classroom activities. The teacher (during group discussions, projects, and other student-led activities, but certainly not while instructing), volunteer, observer, or student-teacher need only code and check-off the occurrence of such behaviors at regularly-timed intervals. This can easily be accomplished if seating charts are constructed with large enough boxes to accommodate checkmarks. Since it is unlikely that a teacher can instruct and evaluate

students simultaneously, a student-teacher or trained adjunct can collect this data. A similar procedure can be conducted for teachers themselves during interactive sessions with students by noting who the teacher calls on, questions, responds to, corrects, reprimands and so on.

Student self-analysis checklists (responding to and noting the applicability of time management statements like, "I have trouble turning in assignments on time") and discussion questions based on class simulation exercises (providing hourly schedules of fictitious characters' activities) represent other ways of obtaining information about a student's use of time.

Once enough data has accumulated to warrant analysis, decisions about altering either teacher or student behavior can be made and are more firmly rooted in accurate, behavioral terms.

Clear Thinking Time management also entails a clear and organized thinking process, uncluttered by the usual kinds of worries, ambiguities, and lack of self-assuredness which often plague teachers. Improving one's own thinking and problem solving strategies increases the amount of time available for other, student-oriented tasks and provides an excellent example for students to model. Clear and efficient thinking results when teachers:

(1) Get involved in a variety of non-curricular activities to broaden horizons.
(2) Acquire the habit of examining the "big picture" by going beyond the facts presented.
(3) Challenge facts by validating so-called "expert" opinions and checking how consistent the available information is.
(4) Remember that students operate through their own views of reality.
(5) Present general information and abstract concepts with specific support, but avoid overgeneralizing.

(6) Use inquiry fruitfully and don't accept information unconditionally.

(7) Always keep in mind that chance and accident are a part of human experience.

Practical tips for improving the use of time include:

(1) Handling routine matters on a "can-do" not an "I'll get to it" basis.

(2) Building a hierarchy of problems according to importance and allot a proportionate time for each.

(3) Skimming and ignoring irrelevant reading material.

(4) Minimizing interruptions by screening calls and visitors.

(5) Anticipating problems and delays.

(6) Focusing effort on fewer tasks.

(7) Organizing a clean and expedient workspace where necessary materials are within immediate reach.

(8) Sleeping and physically exercising regularly.

(9) Taking workbreaks to ease tension.

(10) Completing an unpleasant, if necessary task at the beginning, rather than at the end, of each day.

(11) Dividing unmanageable and complex projects into smaller, workable tasks.

(12) Sticking to sound decisions.

Most, if not all, of the suggestions apply to students as well. There is thus great truth in applying the maxim, "Better teachers make better students".

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2) How To Motivate Students

It is generally assumed that students who are highly motivated are more likely to succeed in school, both in terms of their actual scholastic performance and in their desire to learn. Students, like most other people, pursue competence, mastery, and control of their environment, as well as status, prestige, and security. They need to know what their teachers and classmates expect from them so that they feel comfortable with the support offered and will seek further approval. To the extent that all of these general needs are met, students will enjoy their learning experiences and perform to the best of their ability. However, when student motivation is ignored, side-tracked, or disrupted, a number of difficulties will ensue. There are several strategies which teachers should employ, and several others which should be avoided, in order to inspire students to want to achieve.

Teacher Acquired Skills What can teachers do to foster motivation? First, teachers can benefit by acquiring certain skills even before they enter the classroom. Proper preparation requires strong organizational skills: class lessons should minimize student confusion, should be able to change according to student needs, and should leave time to check for student comprehension along the way. Teachers must be able to distinguish between problems and difficulties associated with an individual versus a group, and handle these problems accordingly. Individualizing instruction focuses curricula on specific student needs and maximizes both student learning and a sense of mastery. "Flexibility" should become a standard word in every teacher's vocabulary; this entails promoting student choice and control. Once having granted these liberties, teachers should stress student responsibility and participation. Students need instructors who model the best kinds of student behavior: seeking help regardless of gender, inquiring about material, and showing respect to others in the

class. Teachers themselves must be highly motivated and genuinely enthusiastic about their own work, since students will respond negatively to lethargy. Finally, it is incumbant upon the teacher to learn more about the kinds of cultural bias s/he may foster in the classroom, because only then can the techniques necessary to control future discrimination be incorporated.

Creating Supportive Environments Second, teachers can help create the kind of generally supportive environment conducive to student motivation. They can focus on the novelty and unusualness of the lesson and key the learning to interesting activities. They can present the material in different ways using multi-media techniques. They can emphasize correct, not quick, answers to questions. They can model interest by letting students know that they too enjoy the activity. Students can be challenged in the classroom and encouraged to practice what they have learned. Teachers can stress the relevance of the lesson to students by pointing out everyday and future usage of the material. A classroom environment which encourages creativity promotes motivation by giving students opportunities to express themselves. "Teach people, not subject matter," is an appropriate maxim to follow. Creativity is enhanced by curbing students' "I can't" statements, by using art experiences in conjunction with other lesson material, by promoting honors programs, and by using role-playing and simulation games. Creativity leads to multiple thinking strategies, allows students to take risks, and encourages the production of different types of ideas. It also prods the student to experiment, investigate, solve problems, and interpret both the fruits of their labor and the process they used to get there.

Students are Professionals Third, the way a teacher interacts with her or his students is an area of great importance. When presenting material to students either as a group or individually, the teacher should talk at the student's level, emphasize interest, stress personal success standards, and promote identification with the task while minimizing competition and the anxiety often associated with

future evaluation. It is important to distinguish between these "learning goals" and other "performance goals"; that is, those objectives traditionally concerned with external standards, competitiveness at the price of competency, tasks selected for easy completion, and an entire orientation preoccupied with avoiding failure rather than with acquiring skills.

Regardless of presentation style, motivation is improved when lessons are accompanied by particular questioning techniques. Lesson material can be examined by questions which are imaginative, probe beyond the simple information presented, and simultaneously encourage the students' problem solving and reasoning. Also, students will remain interested in material longer if teachers vary the stimuli associated with the lesson: use different gestures, body movements, and facial expressions; switch visual attention to different students; and utilize audio-visual aids whenever possible.

While students require prompt feedback on their work emphasizing their strengths and abilities, they also need reinforcement of appropriate behavior. Praise is effective when it is delivered contingently and specifies the particulars of the accomplishment. Praise should reflect a student's spontaneity, variety, and credibility. Successful use of praise provides information and competence and effort, orients the student toward problem solving activity, encourages the student to attribute her or his success to effort and ability, stresses internal standard-setting, and focuses student attention on her or his own lesson-related behavior. By the same token, teachers have to learn to curb their nonspecific, frequent, or inappropriate use of extrinsic rewards. Decreased motivation occurs when rewards are based solely on student participation and can lead to more frequent errors, longer response times, and restricted thought processes. Extrinsic rewards may be used only if the student is not working at her/his normative level. Once knowledge of results leads to improved performance, teachers can maintain or increase future-oriented thinking by helping students set their own performance standards.

Teaching with Compassion Fourth, teachers can create a non-threatening atmosphere of social encouragement when they interact with students. They should allow students to make mistakes without ridicule and build a trusting relationship between and among students. They should show consideration and respect for students' dignity, express compassion when students fail or misjudge, and re-affirm a student's self-confidence. Teachers can learn to adjust when they see students responding to real or imagined differential treatment and can prepare the class for changes that might have to be made due to lesson or environmental alterations. Students who work in groups should receive instruction stressing cooperation, group goals, and group effort.

A successful teacher will always remain alert to signs that interest in achievement is waning. The symptoms of diminished motivation, similar to "burnout", may increase by degrees. The first stage is mild and is characterized by fatigue, boredom, worry, and brief bouts of irritability. The second stage is more serious, indicated by generalized negativity toward school. Defensiveness is displayed, especially toward teachers, and effort is substantially reduced. The third stage produces severe impairment in work, reports of physical distress, disharmony with friends and family, and significantly lowered self-esteem. By this point, students may exhibit any one of a number of cognitive and behavioral characteristics which represent a downward spiraling interaction between what has now become a lack of drive and poor performance. School to them becomes a veritable wasteland, dull and monotonous. Teachers are viewed as a hostile group determined to manipulate students and prevent them from pursuing exciting, if disruptive, behaviors in class. Students lose a sense of control and purpose; they fear failure and so avoid the kinds of things necessary for improving their standing. While maladaptive motivational patterns may not produce low achievement scores immediately, poor orientation toward learning goals surfaces early and can translate into deficient performance months or years later.

When a drop in motivation becomes apparent, a teacher may consider several possible sources for the problem.

A socializing environment which reinforces maladaptive patterns may have been created, either deliberately or unintentionally, and may be to blame. If teachers produce a classroom structure which categorizes students on the basis of intelligence, students will model that negative approach among their own peer groups. The emphasis in the classroom should not be placed upon lesson repetition, quick student responses, bribes to get students to finish their work, threats of punishment (point deductions, demerit accumulations, meaningless writing assignments, baby work, etc.), reminding students of negative peformance, error-based learning (e.g., must settle for bad penmanship), or disrupting successful work to end class early. Such tactics simply bolster the inappropriate conduct.

Student Satisfaction Many teachers are usually unaware of the fact that students' own personal satisfaction is vital to maintaining motivation and that ineffective and inappropriate use of reinforcement can have devastating effects on student motivation. Praise is useless or harmful if it is delivered randomly or unsystematically without regard to the specific accomplishment or shows a bland uniformity. This is also true if it rewards mere participation, provides no useful information, orients students toward competitiveness, focuses on peer rather than individual accomplishments, and attends only to performance. Finally, it is of little use if it ignores effort expended, attributes success only to ability or luck and ease of task, encourages student over-dependence on teachers setting performance standards, focuses attention on teacher manipulation, or distracts students while working.

Symbols of Culture It is also difficult for teachers to recognize that because they symbolize and internalize cultural prejudices, they are likely to discriminate, even unknowingly, against students on the basis of race, gender, socio-economic level,

or physical attractiveness. For example, gender stereotypes which, on the average, propel female students toward meek compliance with teacher dominance also inhibit competition against boys and instill a desire to achieve by affiliating with the "right" people, not by producing successful individual accomplishments in school. Ample research demonstrates that while older boys, on the average, outperform girls on math and spatial tasks, most of the differences can be explained by girls' lower expectations. Boys have high and often inflated self-expectations regardless of the subject matter. Girls attribute their own success to luck and failures to poor ability while boys attribute their successes to skill and failure to bad luck. For the student, then, the socializing nature of the school environment mirrors and in many cases magnifies the motivational hurdles faced by most people.

Modern educators point out that students who feel that school is there to teach them something are students who wish to learn more. A student-oriented class stresses responsibility, appropriate use of power and social influence, and how to work and live with others. It provides students with an opportunity for choice, initiating events, and free exchange of ideas, while minimizing stereotyping, monotony, inappropriate use of praise, and passive roles. In short, when classes encourage more student contributions, they reinforce more highly motivated pupils.

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3) How Students Teach and Manage Their Own Classes

A stereotypic American image of the traditional classroom is the crucible where cultural and educational goals are tested, nurtured, and ultimately incorporated by the younger generation. Bright-eyed, red-cheeked pupils passively listen and attend to autocratic schoolmarms who deliberate over rote memorization tasks and enforce rigid rules of conduct by brandishing the ever-reliable ruler. These exercises are supposed to instill love of learning, democracy, and country, but educators have noted that the results are often just the opposite. Students reared in this kind of inflexible environment may suffer serious losses in self-competence, control, and esteem which can in turn threaten academic achievement, lead to more repressive and punitive measures, and ultimately negate the entire educational process.

Successful work in school is more likely to develop in an atmosphere of encouragement, discovery, mutual student-teacher respect, and active student participation. Many educational interventions in the home and school do approach these goals, but a student-centered class stresses the participation of the individual for whom the very basis of education is aimed, namely the student. Such a class is one in which creativity, elaborative thinking, curiosity, free exchange of ideas, sharing of classroom power and control, access to varied resources, and working with others are universally rewarded.

Small Group Procedures One model for producing these characteristics is the small group approach. Initially, students and the teacher can jointly decide appropriate issues relevant to the curriculum. Next, students are randomly organized into groups of four or five. Leaders are selected and serve functions of maintaining task effort and noting any group concerns. Students then examine key questions and sub-topics suggested by the issues and consult with other resources which should

be made readily available (e.g., library books, etc.). The process should continue no longer than a few weeks and is benefitted by reasonably frequent student-teacher conferences designed to monitor progress. Results are recorded by one of the group's members and a standardized evaluation form measuring perceived learning and enjoyment is completed. The finished product may then be presented to the entire class. This process may be repeated with new leaders elected or assigned by rotation, stress placed on utilizing different resources, and/or new topics chosen for consideration. Ultimately, this kind of procedure fosters mastery, self-assuredness, and getting along with peers in assertive but non-threatening ways. Youngsters, or adults, at all grade levels can excel with this specific student-centered method.

Student Tutoring Another approach to gearing instruction and learning toward the student which has received far greater scrutiny and examination is student tutoring. Students who successfully complete specific assignments or lessons well ahead of others are initially chosen to become tutors. Since most students excel in different subject areas, most automatically get some opportunity to learn tutoring. For those who lag behind, teachers and experienced student tutors may spend extra time training would-be tutors.

Implementation of a student tutoring program can lead to impressive gains in academic achievement if the following training goals are met:

(1) The student tutor can be put at ease by explaining (for example, by posting rules or preparing a written contract) what tutoring behavior is and what it is not, by teaching appropriate verbal and nonverbal skills, and by emphasizing friendly interpersonal relations between student tutors and student learners (e.g., through role-playing probable tutorial situations).

(2) Learning expectations must be clarified through specific short- and long-term objectives, through detailed lesson requirements, and through initial strategy

conferences between teachers and student tutors. Novice tutors need to learn how to question and evaluate learners, how to make appropriate eye-contact, how to speak in a clear voice, and how to request help from the teacher, experienced student tutor, or student monitor when necessary.

(3) Tutors can learn how to verify answers when they are required to be familiar with correct solutions, are taught successful and inappropriate methods for problem solving, and obtain the ability to follow directions as outlined in lesson plans.

(4) Student tutors must learn to guide the student learners toward correct responses. This means telling the learner when the correct answer has been identified and following partial lesson plans in sequence. When teachers take the time to review this important objective, tutoring programs continually demonstrate superior results.

(5) Confirming correct responses and providing clear feedback is necessary in successful tutoring. Tutor trainees can be taught specific positive comments, but must also learn how to be flexible when the situation calls for it. Too much verbal praise confuses the learner and may lead her/him to ignore the tutor. Knowing when to intervene and give feedback to the learner is important, too.

(6) Student tutors can avoid being too critical only if they are directly taught to be aware of the impact their responses have on student learners. Monitoring during role playing sessions is necessary in ensuring proper and positively-stated (verbal or nonverbal) behaviors.

(7) Teaching tutors to provide tangible results in the form of points, tokens, M&M's, or other desireables leads to successful tutoring. Clearly, tutors must learn to administer such rewards with care.

(8) When specific responses to questions are not enough to demonstrate conceptual learning, tutors should be taught to intervene and request explanation from learners.

This process gives the tutor an opportunity to determine whether or not mastery of a given lesson has really been attained.

(9) Tutors should also be taught very practical skills to retain their effectiveness. These include keeping appointments, working regularly with the same person, avoiding unnecessary interruptions of learners, thoughtfully attending to a learner's responses, carefully restating what the learner said if uncertain, not answering his or her own questions, and minimizing the natural intimidation of the tutoring situation as much as possible.

By following these training directions, tutoring accomplishes a number of impressive achievements. Learners generally demonstrate improved performance in the specific skills they have been taught and show a greater willingness to request information. However, the most success has been achieved by tutors themselves in such areas as basic reading skills, vocabulary, math ability, and comprehension. Tutors also show increased desire and motivation to study and attend to lesson presentations in class. Tutors' self-concept and confidence usually improve while they also experience a greater social acceptance compared to those who have not tutored. Remarkably, these results hold even if the tutors are physically handicapped and teach non-handicapped students. Most students report the tutoring experience as a positive one and evidence continues to accumulate that parents and teachers express similar sentiments. To date, research has examined the tutoring process for children of advanced school grades and older. Whether or not limited forms of tutoring may be possible for younger pupils remains to be seen.

The methods described here are just two of many possible strategies for developing a student-centered approach to teaching. The development of such an approach will be rewarding to student and teacher alike, since successful learning will occur in a classroom where students are actively involved in the learning process.

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4) How Students Improve Their Study Skills

Learning in school requires more than attending classes, listening to teachers, and taking exams. Pupils must play an active, studious role if they plan to acquire knowledge and understanding of the curriculum presented to them. Educators should pay closer attention to the problems students face and the skills needed to handle those issues. For example, children do not easily recognize increasing levels of difficulty in math and comprehension problems. They rarely use reasoning strategies necessary for generalizing from specific instances to broad categories. They neither monitor their learning attempts very well nor plan time and opportunity to study in advance. The special study skills that students develop over the course of their education not only help them do well in school, but also help prepare them for real-world situations that require the general abilities of diligence, analysis, foresight, and planning.

Metacognitive Skills Recent theories of learning point to the importance of a student knowing and managing his or her scholarly capacity, or "metacognition". Part of this process operates at a level below awareness where an "automatic pilot" is in control. However, when a new or more difficult problem is addressed, a conscious effort is required to "debug" the problem. In this sense, it is vital that students learn to:

- (1) Know when they know
- (2) Know when they need to know
- (3) Know what they know
- (4) Know what they need to know

Students can employ general metacognitive skills and thus gain invaluable experience in school if they can distinguish surface from underlying meaning while reading

texts, identify the most important aspects of a message, spend time examining key passages, ignore or skim trivial information, review and question material after a first read-through, and quickly recover from temporary distractions. At the same time, children do develop their mental talents during the course of their maturation and cannot be expected to master complex tasks early on. Six-year-olds do well selecting and studying main ideas from a text if presented as pictures. By the time they reach the age of eight, they can transfer this ability to the text, utilize more memory recall aids, and increase their length of study time. Still older students learn to estimate how ready they are for tests, and college students are best at selecting specific text information (subtitles, e.g.) for later recall.

Assessment Teachers are certainly challenged with the many ways in which to assess a student's metacognitive skills. A student survey may inquire into the types of classes, non-curricular reading, foreign language usage, and outside interests which indicate developmental levels of metacognition. Attitude surveys on writing ask students if they like to write, if they think they write well, if they plan what to write in advance, and if they prefer certain kinds of writing assignments. Suggestion check lists ask students to select and recommend which of their teacher's study strategies are most successful. Learning styles questionnaires asks which type of class and test they prefer, or if they would rather work individually or in a group. Other related preference tests determine how well students follow directions, their ability to explain, their competence in the use of maps and memory aids, and how well students proofread their own written work. Finally, description assignments assess the ability to describe an object's visual and sound characteristics.

General Training Considerations Once a student's potential level of understanding and general ability is evident, teachers are in a position to train them in any one of a number of metacognitive skill-building techniques. But before the student begins the actual work, teachers should consider how the training itself

should be conducted and the impact it may have on a student's future study skills.

First, the "cookbook" approach, which emphasizes "what" to study and ignores underlying strategy, is not enough. Students need clear explanations for why they should employ a given method. They can learn more about "how" to study if the teacher tells students why the particular strategy is useful, thinks out loud about how it is to be applied and evaluated, and discusses when and where it is most useful. The teacher and the class together can also identify and discuss which studying strategies are least effective.

Second, stressing metacognitive skills means that teachers need to break down the steps of studying into very small and specific increments so students can easily follow instructions. Third, teachers should promote general studying strategies so students can transfer their skills to other topics. Fourth, strategies require an entire academic year of planning and implementation so that all concerned will recognize that they are not dealing with just an academic frill or a "special section" of a class. Fifth, students need to be provided with opportunities and guidance periodically to practice what they have learned. Sixth, teachers can use various adjunct aids (highlighted text sessions, illustrations, etc.) to stimulate and heighten student interest in studying material. Warning students about future testing of material is a successful tactic if students are given the means and the opportunity to prepare beforehand. Finally, students significantly sharpen their study skills when they can teach each other. This is especially good for modifying routines and allowing students to discover better ways of getting the job done. Feedback that teachers will receive from this kind of study training interaction will prove invaluable.

Specific Strategies What specific strategies should students use?

- *Note-taking* is a study skill that requires a good deal of attention in the early stages. Students should have their notes periodically collected and

evaluated. They can learn how to create a "cheat sheet" which helps them organize and summarize written information. Note-taking by itself, however, is ineffective unless it is combined with other techniques such as those described below.

- *Underlining* teaches students how to highlight portions of the text deemed most important, guarentees that they will spend more time covering material, and helps them refer back to information when reviewing the text. Outlining notes and readings encourages organizational skills and can be presented in picture, timeline, or topical forms. Students learn how to outline when they initially skim the text for major sections, skim it again for subdivisions of the text, and then read carefully for supporting details. Webbing is a related strategy which focuses student effort on combining and reformulating concepts across subtopics. Because it requires a type of outline strategy as well, it is usually more effective – though also more time-consuming.

- *Paraphrasing* and *imaging* techniques require some abstract capabilities. Paraphrasing requires students to rewrite text information in their own words, but can only be clearly assessed on essay exams. Imaging is useful for students who have difficulty extracting major concepts from written information. They may be asked to draw or verbally describe an image of a text's main points, but, like paraphrasing, the effectiveness of imaging is demonstrated only on essay examinations.

- Two final techniques – *questioning* and *elaborating* – are relatively complex and time-consuming. Teacher-prepared questions require reviewing and analyzing text segments. Student-prepared questions do the same, but stimulate further examination in two ways: Students not only seek straight-forward answers to simple questions, but also produce more scrutinizing questions to complex inquiries. In fact, recent research shows that questioning is more effective than having students carefully review learning objectives. Elaborating encourages students to create new relationships with the information given by using analogies, drawings, and other potential resources.

Educators note that students learn appropriate study skills best when they break down studying into smaller tasks. This is accomplished in three stages. In the prereading stage, preparations for studying begin. Students can learn to control internal distractions (e.g., negative self-talk: I can't do this) by imagining a related problem solving scenario and resolving it. External (e.g., sounds)

distractions can be minimized by locating a quiet, familiar, but stimulating environment. Next, students should set deadlines and break down large projects into smaller, sequential, and manageable tasks. Any activities like browsing, skimming, and surveying text information can now begin in a non-threatening manner. Prepared questions are a good way to ready the student for more serious studying. Indeed, students should pose their own questions which boost interest and attention: Why am I studying this? What will I do with this information after I learn it? Should I use a record-keeping system?

During the actual reading stage, self-questioning should occur frequently after various text pauses, periods, paragraphs, and subsection endings. Underlined, italicized, and bold printed matter can also promote inquiry. The kinds of questions that may surface include: How is the material organized? Do I "get" it? Are there new words? Does the sentence make sense? What was the subsection about? What are the important facts? What can be ignored? Have I read something similar to this before? Does this information hold together? Can I outline this chapter? Can I list the main points? For those difficult items which, to many students, defy comprehension, what-to-do-next questions are extremely useful tools. For instance, if a student cannot act immediately, the item should be stored as a pending question. Next, a tentative hypothesis should be formulated and reading continue. At some point, a triggering event (e.g., too many questions or a repetitive pending question) will most likely force immediate strategic action which can take one or more of the following forms:

- (1) Reread the text portion for more information.
- (2) Jump ahead in the text for more information.
- (3) Consult outside sources.
- (4) Record the pending question for later reference.
- (5) Reflect on the pending question.
- (6) Stop reading for a while and return later.

At this point, if the strategic action is successful, reading may continue. If the action is unsuccessful, another action may be chosen until success is obtained.

The third stage of studying includes a number of suggestions for students when evaluating, applying, and maintaining successful strategies: Students may reward themselves appropriately when they succeed in a given studying strategy or deny themselves the reward if success does not follow. They may practice studying just prior to the test, record new examples and applications of the text's main points, or tell a friend what they have learned to reinforce both their knowledge and their confidence in having mastered the material. They should study the most important material first, and feel free to ask tutors and teachers about prior lectures.

Students should focus on what they have not yet mastered. For instance, what answers did they get wrong on their homework? They should spend time re-doing those sections and check their new results with others. Homework should be done within a couple of days of the assignment. Students may periodically re-study important material, join or organize a study group, or maximize the time actually used for studying by making a schedule and sticking to it.

In short, study strategies are plentiful and effective if students are taught how to use them.

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Section III: SCHOOL

Introduction

Educators who gauge students' academic success by measuring school effectiveness recognize more global aspects of learning. Rather than examining attributes within a person or between teacher and students, here the level of analysis encompasses many students, teachers, administrators, and other cultural influences as well. Because the school is a complex and organized unit, assessing its impact on learning is both essential and problematic.

The first selection addresses the incessantly attacked, but always necessary role of the principal. A principal must lead, support, or receive recognition from her or his colleagues and subordinates. The leadership skills used in these interactions appear to be just as, if not more, important than the technical skills brought to the job.

Emphasis on change and progress is stressed in the last two sections on improving curriculum and evaluating schools. Course content can and should be modified to reflect the changing needs of American society. The weakest link in the school reform process is assessment. Unless sufficient funds, staff, and energy are directed toward monitoring school programs, it is nearly impossible to determine their effectiveness.

1) How Effective Principals Lead to Superior Education

Brief History Principals in the American public school system are charged with directing educational programs in schools across the country. Slow to receive recognition for their efforts and quick to be blamed when policies do not translate into instantaneous results, principals acquire so many different roles and perform such divergent tasks, that is is difficult to pigeonhole them into a single unifying category. This was not always the case. One century ago, principals were little more than glorified bookkeepers and responsible for records and evaluations of students in schools. As public schools multiplied and dominated the American educational system, principals' responsibilities developed from training teachers, applying philosophical truths to administrative policies, and managing the institutions as a business, to promoting democratic participation and extrapolating laws of behavioral science to the school environment.

Key Functions Principals' functions are recognized today as extensive. As traditional educators, they:

- (1) Set the agenda for major school issues and programs.
- (2) Counsel teachers, students, parents, staff members, and other patrons.
- (3) Implement school board and community policies.
- (4) Oversee financial and physical operations of the school.
- (5) Promote educational research and staff development.
- (6) Maintain school records and evaluate relevant data.
- (7) Discipline inappropriate behavior.

As initiators and innovative educators, principals:

- (1) Stimulate new areas of educational interest.
- (2) Implement policy changes.

- (3) Mediate among relevant negotiating parties.
- (4) Advocate concerns of the unempowered.

Acquired Skills What skills do principals acquire which help them perform these tasks? Researchers agree that certain leadership skills provide the best principals with opportunities to excel in their jobs. High levels of academic achievement in college, high degrees of interpersonal abilities, strong motivations to serve, and commitments to put in extra time to get the job done all correlate significantly with superior performance by principals. These principals work harder, concentrate greater effort on decision making skills, know how to identify problems which need immediate attention, take actions, and direct others more so than principals with less knowledge and experience. A principal's leadership ability also strongly correlates with staff morale, teachers' performance, evaluation of teachers, and support from superiors.

In general, most successful principals do well on the job because they know what to expect and have a hand in making some of those goal-based decisions. They exude self-confidence and are willing to tackle the real problems a school lives with each day. They tolerate ambiguous relationships of authority and responsibility among their colleagues, superiors, and subordinates. They are proactive in that they actively seek out what can and cannot be accomplished in the process of striving toward their goals. They successfully avoid the pitfalls of petty issues and myopic views of their school by deliberately exposing themselves to alternative, even negative, sources of information. In short, they are in charge.

Beyond Formal Training On the other hand, formal training does not guarentee positive results. When principals minimize teacher participation in policy making, stress the importance of status distinctions, and lack a clear desire to offer emotional and authoritative support to teachers and staff, they seriously undermine their ability to promote school effectiveness. In some cases, formal training is

but a contributory factor. Many highly successful principals note that they had never intended to become school administrators at all. Some of the positive "intangible" qualitites that good principals hold in common include a sincere desire to promote the welfare of students, an interest in garnering cooperative efforts from others, adaptability, an ability to plan effective strategy, an enthusiastic sense of mission, and a commitment to doing whatever is necessary to achieve short- and long-term goals for their schools.

Principals' perceptions of what problems schools face, how they can better handle their jobs, and what they think others think of them are all noteworthy. First, they believe that teachers, parents, and administrative staff should all influence the decision making process to some extent. Second, they feel they get a "bum rap" from administrative superiors and citizens. Third, they sometimes feel lonely at the top and isolated from school life. Fourth, they feel confused and unsure when faced with militant teacher demands. Finally, they are dismayed and bogged down by the massive paperwork which interferes with their educational tasks.

Difficulties The plethora of situations which challenge and concern principals can usually be condensed into three major issues:

- (1) How can the quality of schools continue to improve and teachers' academic freedom and job security be retained within the present ambiguous system of tenure?
- (2) How much of an impact can principals have when there are so many systematic restraints on their influence and power?
- (3) How can the very human emotions of empathy, stress, and anger apply to principals who must act "professionally" and retain some semblence of control?

However, the key issue for school effectiveness is not simply the personal anxieties of each principal. The rules, in part, which prescribe appropriate roles and requirements of principals are determined by the nature and values of the system. The complexities of inner city politics and violence, for example, are situations

beyond a principal's direct control. Most school systems today promote policies which isolate principals, needlessly drain their efforts and tax their time on routine and minor requests, stress peace-keeping and not rocking the boat over academic excellence, and emphasize individual control in the hands of teachers to the extent that the latter are encouraged not to cooperate with outsiders for fear of losing their classroom autonomy.

Approaching Solutions Given the fact that principals are faced with these seemingly insurmountable problems, it is clear that solutions are not at their fingertips. How then can principals perform the job they were hired to do? Specific and successful strategies are bolstered by recent research. Principals need support. Their effectiveness is enhanced when staff members' contributions and creativity are encouraged, when valid evaluation tools are used to assess leadership skills, when academic performance standards remain strong, when students are given individualized instruction, when counseling is taken seriously and used to benefit all students not merely the brightest or nastiest, when teachers are recognized and rewarded for their important professional contributions, when school time is primarily used to promote academic health, when discipline is swift and fair, when parents are an essential component of the learning process, and when the community knows about the success of the school.

Second level administrators who directly interact with students aid the principal by keeping an eye on absences and attrition rates, by providing high quality advice for students with degree or trade aspirations, by explaining to students what specific requirements need to be fulfilled in order for them to graduate, by preparing prospective students for community colleges and universities, and by regularly assessing student needs and abilities.

In fairness, effective schools are not the guarenteed outcome of effective principals. High levels of teacher cohesiveness, clean and safe school environments, and community support also determine whether or not a school will ultimately succeed. Nevertheless, given what is known about successful principals and their staffs and what can be applied in today's schools, student performance can only improve as the effectiveness of principals increases.

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2) How Improving the Curriculum Boosts Achievement

Need for Reform Deciding what students should learn in school has never been a simple or easy task. During the course of the twentieth century, curriculum emphasis has alternated between the persistant goal of pursuing knowledge and adapting that knowledge to a society's changing needs. Curriculum reform really began when returning veterans entered the educational system through t! e GI Bill after World War II and forced administrators to retool teacher education along more professional lines. Technical innovations like the launching of Sputnik and psychologist B.F. Skinner's programmed learning instruction caused math and science courses to be stressed during the late 1950's and early 1960's. Demands for relevance and increased empowerment of disenfranchised minorities swung subject matter toward the more "human" side of the curriculum in the late 1960's and remained so for the next decade. Today there is renewed interest in acquiring basic knowledge, skills, and academic excellence.

Current trends in the nation's schools are promising. Educators recognize a greater need to measure what students know as well as what they are capable of knowing. Most institutions of higher learning are now re-examining and seeking to fill gaps in particular areas of course content including their math, computer, writing, and communication skills. Industrial liasons, perceptions of the institution's status, and long-range planning are now hot topics. The number of faculty hired and students enrolled in these areas has increased dramatically. What remains an open issue are the values and priorities of both educators and private sector representatives that partially determine which curriculum should be stressed.

Confusion Inspite of this generally positive view, disenchantment with curriculum content continues to run high. Radical, though hopeful, change in the 1960's was considered temporary. Course content is still viewed statically; that is, the

process of knowledge expansion and change moves administrative wheels rather slowly. Credit for "life experience" is more cosmetic than substantive. Students and parents continue to be puzzled by descriptions of courses in college catalogues. Student expectations of an appropriate and meaningful curriculum often do not match what the school actually offers. In short, people usually have only a rudimentary sense of course content.

Curriculum Development The problem of curriculum thus becomes two-fold: improving course content itself and creating an environment conducive to using it. Planning, implementing, and evaluating stages of curriculum development are extensive. Educators must:

- (1) Identify academic goals and specific learning objectives of the proposed course.
- (2) Produce a model of understanding how the student will work through and digest the course content.
- (3) Create a procedure for following and balancing the progression of the student's ability to ask questions, acquire information, and get along with others.
- (4) Allow for extra time, work, and effort since potential side issues are not readily apparent when the course is begun.
- (5) Thoroughly plan the organization of course topics.
- (6) Provide different formats for individual and group learning.
- (7) Prepare different strategies for course presentation.
- (8) Prepare materials to evaluate the effectiveness of curriculum change.
- (9) Submit the new or revised course plan to administrative functionaries who can expedite implementation without sacrificing proper review.

This general model is effective, especially over the long-run, if planners remember that success requires adaptive, collaborative, and future-oriented efforts.

Curriculum Improvement Recommendations for specific course content presently reflect much of the renewed interest in a return to the fundamentals of education. For example, many students lack a clear understanding of their own and their fellow classmates' national and ethnic origins. They fail to appreciate that the diverse

nature of American society is one of the cornerstones of the nation's democratic structure. Strengthening content and standards of assessment in courses like geography, American government, and history will help bridge this knowledge gap.

Similarly, the general decline of schools' commitment to foreign language instruction is unfortunate. Early and sustained exposure to a second language increases a student's flexibility and provides important incentives for integrating more information about different cultures and different peoples. Since students often have difficulty grasping the relevance of this material, teachers and administrators should consider alternate methods of presentation. Outdoor education (e.g., field trips to neighborhood cultural centers, invited guest speakers, or live-in student exchange programs within the United States) whether individual or in small groups, can help students learn about different cultures in nearby communities, schools, or at work. Other kinds of curriculum innovations recently instituted include computer centers for the hearing impaired, one-day-a-week college courses for high school students, a center for international programs, interdisciplinary humanities programs, science and literacy fairs, career planning days, and senior seminars. Efforts are also underway to enlist minority and female students in traditionally white, male classes.

Contributors to Change The interactions of different elements at different organizational levels of the academic institution have much to contribute to the improvement of course content. At the inter-school level, programs are now in place which address deficiencies in specific course areas like English, math, and the fine arts. Certain schools then act as magnets to attract particular students, to offer curricula missing in neighborhood schools, and to stress college preparatory learning. If the student's ability warrants special attention, parents can select, on a first-come first serve basis, a school they feel will meet their child's needs and aspirations. Basic educational requirements are not omitted; in fact, those who attend preparatory schools usually have and will continue to demonstate superior learning in general and elective course curricula.

At the faculty level, a change in curriculum is effective only if very specific and practical needs of teachers are met. With scheduling problems, increases in enrollment, and the introduction of new instructional materials, faculty occasionally need guidance from outside consultants and may require more funds to get the new courses underway. Interdisciplinary team-teaching is successful if extra care and preparation include establishing full support by the school principal and planning weekly meetings with attendance by selected teachers and administrators. Staff recruitment, reward allocation, work load, and the redistribution of authority are issues which must be raised during these discussions. Evaluation and follow-up studies of these kinds of changes are absolutely essential for sustaining the reforms once achieved.

What happens at the level of student learning also affects curriculum development. All students do not react to change in the same way. Adult students are motivated by self-directed material, self-designed class projects, and self-paced instruction. They prefer no-nonsense, cookbook approaches presented face-to-face and one-on-one with the instructor. Here, successful classes emphasize debating and sharing real life experiences. Adolescents, on the other hand, are more concerned with such topics as emergent sexual feelings and drug use. Introducing such volatile material and offering these students various opportunities to think about it is a necessary part of innovative curricula.

The future for curriculum change looks bright. Revolutionary developments in the way information and knowledge are created, marketed, delivered, and evaluated affect the administration and practice of course content. New approaches will probably include various video-telecommunications, involve different types of students (prison inmates, factory workers, etc.), and incorporate school staff and other outside consultants in the change process. As schools continue to scrutinize the criteria

by which the content of courses are evaluated, approved, or found wanting, their response to the changing environment and the ever-increasing interdependence of nations will direct educational curriculum toward global issues and concerns.

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3) How Evaluating and Monitoring Schools Improves Education

One great controversy that continues to plague educators is how to collect and evaluate facts on all aspects of academic performance without prejudging or misusing the data. It is clear that educational evaluation is a necessity in a complex, technological society. Without the means to assess or the opportunity to improve school performance, the ideals and goals of American education would flounder. Certainly, informed consent and other safeguards are desireable and necessary to protect the rights and privacy of students, staff, and teachers. But once these safeguards are in place, the public is entitled to a full accounting of the nature, mechanics, and success rate of academic personnel and programming.

National Policy Some educators recommend moving toward a national policy of educational standardization. While this might reduce assessment redundancy and provide a rational method of comparing school effectiveness from one state to another, difficulties remain. Collection of data on a federal level may open a Pandora's box of inequity considerations, may cause potential loss of community control, and may gloss over unique contributions of different community cultures to educational excellence. What impact would such standardization have on magnet schools? Is not the diversity of American education one of its greatest strengths? Other, more operational questions would have to be addressed before such a program could be initiated. Who would receive financial aid and how would this be determined? Which curriculum would be deemed most valuable to the nation? In which direction should improvements in education begin?

An elaborate, computerized assessment information system is not, by itself, the answer. Without proper staff access and preparation, and without a clear understanding of how the information is to be used, the results could be a multi-million dollar bust.

But to ignore the wealth and richness of such information would be a mistake. Utilizing the potent tool of national data collection could be effective if certain guidelines are set and followed:

- (1) Obtain a consensus among relevant policy makers concerning what data are most important (e.g., significant drops in scholastic aptitude scores) and continue to collect necessary data where knowledge is weak or absent.
- (2) Train and monitor practitioners who are just beginning to learn to use an advanced assessment technique.
- (3) Coordinate data collection among agencies and consultants. The Department of Education can act as coordinator without interfering in the decision making process.
- (4) Build and retain a data bank which allows for future comparison across subjects, time, and situations. Offer any inquisitor easy access to the bank.
- (5) Evaluate the evaluators through an office of quality control and/or public watchdog committee.
- (6) Maintain a vigil for high morale among educators and educate the American public about the continuing need for evaluation through public relations.

No matter how evaluative data is collected, stored, and retrieved, it is obvious that the most important considerations are those of defining what information is needed and then using it properly to improve our schools.

The Organization School We live in a time when the availability of information is expanding so rapidly that we have difficulty understanding how to organize and manage it for our benefit. There are many different factors which can figure in the collection and assessment of educational data according to various quality-of-education studies. For instance: (1) Recognition of the influence that education has on increasing the number of jobs and pay raises in a local community or industry. (2) Recognition of matching perceived educational needs to expressed levels of satisfaction among students, teachers, and staff. (3) Identification of the school's physical plant capabilities given a reservoir of limited resources.

One useful way of thinking about the relationship between school evaluation and

effectiveness is to regard the school as an organization. To remain viable and adaptive, it requires resources in the form of staff, faculty, physical plant, community support, and funding. It has a hierarchical structure and clear division of labor. It transforms raw materials (e.g., students) into finished and marketable products (e.g., graduates).

Identifying Criteria Which criteria should be selected to judge an organization's academic effectiveness? Types and sources of data, level and unit of analysis, and time-frame represent key dimensions of evaluation. Accordingly, the many complex educational goals of a school must be broken down into smaller, more workable subgoals, each of which requires definable criteria for evaluation. Appropriate areas for evaluation include achievement goals, managerial functions, school climate, and adaptation to the environment. Examples of specific achievement goals which can be monitored are successful manager personality traits and the amount of information conveyed to students. Examples of managerial functions include planning, directing, controlling, and staffing. Elements of an appropriate school climate are academic rewards, socialization of students, and the motivation of teachers.

Organizational Ineffectiveness On the other hand, it may be easier and more fruitful for school practitioners to focus on factors that inhibit organizational effectiveness. Since weaknesses in any organization have a tendency to stand out, it is appropriate to identify the reasons for ineffectiveness: is it low morale, authoritarian structure, or inconsistent funding? However, emphasis should still be placed on the method for assessing the importance of any obstacle. By using a step-by-step fault analysis, educators learn to limit the scope of the search for problems, determine core and peripheral problems, determine the relative strength of each problem, and select the most important strategies for alleviating the most pressing impediments to school effectiveness.

School evaluation also entails examination of data at different levels of the organization's hierarchy, including principals, teachers, staff, and students.

The Organizational Hierarchy While principals occupy the top rung of the ladder, they do not escape scrutiny. In fact, they often receive too much unwarrented criticism due to their visibility and symbolic role as leaders of the institution. It is difficult to develop a completely fair performance appraisal tool for principals, but the situation is improving. The Performance Review, Analysis, and Improvement System for Educators (PRAISE) tackles decision making, curriculum development, relations with individuals in the school and community, and professional attributes. Qualities that make up a good principal are assessed in PRAISE. More importantly, leadership abilities which correlate with school improvement, like managing innovation and delegating authority, are appraised by this instrument. Self-improvement exercises and training plans are unique additions to the standard evaluation fare. PRAISE appears to be headed toward extensive implementation.

Lower on the organizational pyramid are staff and teachers, but their performance evaluation is just as vital. Recent efforts in developing valid appraisal tools have led to the creation of comprehensive training kits for those who evaluate teachers. These kits come equipped with manuals, videos, references, description of standardized procedures, and the measures themselves. Very specific teacher behaviors are addressed including teacher expectations and awareness, classroom management, pupil interactions, and time-on-task, among others. The teacher evaluation process becomes an organizational intervention in itself; systematic observation combined with testing and follow-up sessions constitute a total approach. In this way, teachers and staff are made accountable for their work. But to make the evaluations useful, results must be part of an overall organizational improvement package. From positive evaluations must come merit raises and increased teacher and staff control within the school. When their successful efforts and productivity lead to rewards, the

morale of faculty and staff is boosted.

Students are usually depicted as representatives of the bottom level of a school's hierarchy, but this is misleading. Students are the targets of educational efforts and surely are the primary products of academic success. They are the very heart and foundation of this organization, and evaluating their performance must now be viewed as serving the school. Communication in this regard is essential. Students, parents, and other support staff should be told why any form of testing is being used, what it will be used for, and how they can help in the continuing evaluation process. Assessment should become an exercise in learning, not futility.

The Big Picture For evaluations to be truly effective, they must be seen in terms of future considerations: that is to say, they should be used in getting a view of the school's "big picture". Initially, evaluation results must be firmly tied into specific goals for innovating change in an educational program. Secondly, change is only useful when it leads to improved performance. Superior work will then have an impact on the nature of future assessment. In other words, the performance appraisal process becomes "evolutionary"; it expands and adapts to changes in performance, environmental constraints, and its own interactive effect upon both of these. Evaluation is thus a loop or circle in which all contributors at all levels of the organization have the opportunity to play a part and influence each other. The school superintendant, college president, or other empowered educator is charged with overseeing the entire operation. That individual then reports to a strategic planning team created for the expressed purpose of addressing the performance evaluation cycle of improvement. This usually entails recognition of potential problems and resources in the environment and forecasting future interests, values, and goals of the school system.

Evaluation is thus much more than merely handing a student an achievement test. It is a diagnostic instrument for assessing the health of an entire school. It can tell educators when the system runs smoothly, indicate when it lapses, and suggest suitable remedies to put the school back on track.

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